



Bulletin 132-88
December 1988

State of California
The Resources Agency
Department of
Water Resources

Management of the California State Water Project

Appendix D

Costs of Recreation and Fish and Wildlife Enhancement



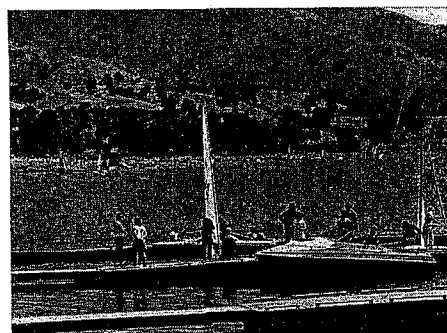
Gordon K. Van Vleck
Secretary for Resources
The Resources Agency

George Deukmejian
Governor
State of California

David N. Kennedy
Director
Department of Water Resources

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Department of Water Resources
P.O. Box 942836
Sacramento, CA 94236-0001



ON THE COVER: Boating at Lake Del Valle on the South Bay Aqueduct.

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Water Resources**

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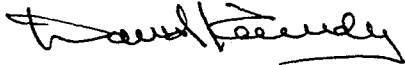
**State of
California**

**Department of
Water Resources**

FOREWORD

The Davis-Dolwig Act (Sections 11900-11925 of the California Water Code) declares that providing for the enhancement of fish and wildlife and for recreation in connection with State water projects benefits all of the people of California and that the costs attributable to such enhancement should be borne by them. The Act also provides a procedure through which the Department of Water Resources will be reimbursed for those project costs which are allocated to recreation and fish and wildlife enhancement and for costs of acquiring property for recreation development. The Department is to annually report such expenditures to the Legislature. If the Legislature approves the reported costs, a like amount of the State's tideland oil and gas revenues will be released to the Department from a continuing \$5,000,000 annual appropriation of tideland revenues which has been authorized specifically for that purpose (Public Resources Code Section 6217).

This constitutes the Department's 1988 report to the Legislature in compliance with the above requirement. An additional \$11,379,238 for recreation and fish and wildlife enhancement is reported herein. This amount consists of \$10,818,737 for joint capital costs of the State Water Project which is allocated to recreation and fish and wildlife enhancement, plus \$560,501 for specific recreation land costs. The additional amount is mostly due to costs incurred in 1987 and interest accrued on recreation costs not yet reimbursed by the continuing annual appropriation.



David N. Kennedy, Director
Department of Water Resources
The Resources Agency
State of California

STATE OF CALIFORNIA
GEORGE DEUKMEJIAN, Governor

The Resources Agency
GORDON K. VAN VLECK, Secretary for Resources

Department of Water Resources
DAVID N. KENNEDY, Director

ROBERT G. POTTER
Deputy Director

JOHN P. CAFFREY
Chief Deputy Director

LAWRENCE A. MULLNIX
Deputy Director

SALLE S. JANTZ
Assistant Director

SUSAN N. WEBER
Chief Counsel

DIVISION OF OPERATIONS AND MAINTENANCE
John R. Eaton, Chief

STATE WATER PROJECT ANALYSIS OFFICE
Donald R. Long, Chief

This report was prepared under
the direction of

Raymond D. Hart, Chief, Project Cost Branch
Jesse J. Cason, Chief, Cost Allocation and Repayment Section

by

Mike Torabian, Assistant Engineer

Assistance in report preparation
was provided by

Earl G. Bingham, Research Writer

and on the basis of records compiled under the direction of

Donald E. Owen, Chief, Division of Land and Right of Way
Chester M. Winn, Controller

CALIFORNIA WATER COMMISSION

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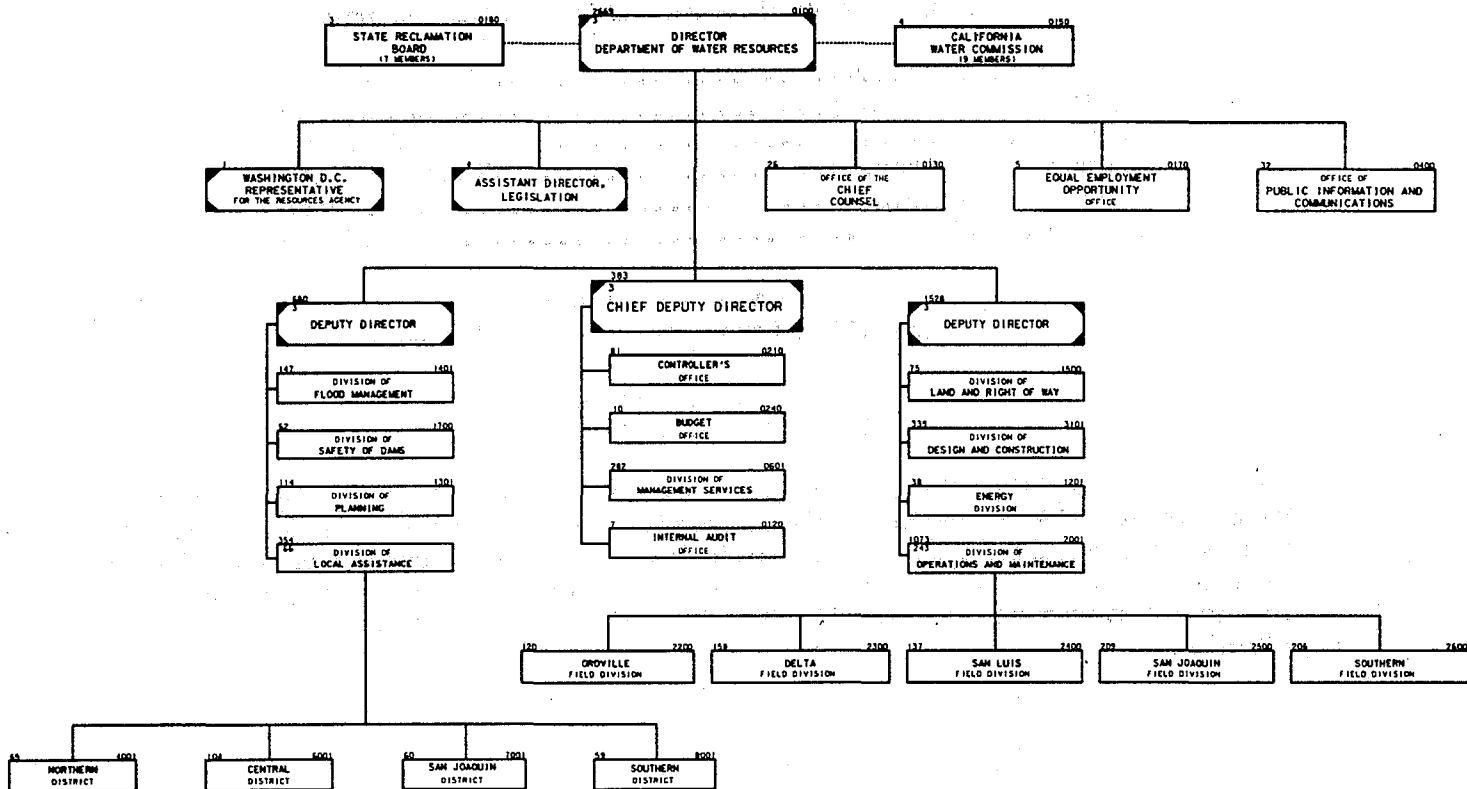
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Orville L. Abbott
Executive Officer and Chief Engineer

Tom Y. Fujimoto
Assistant Executive Officer

The California Water Commission serves as a policy advisory body to the Director of Water Resources on all California water resources matters. The nine-member citizen commission provides a water resources forum for the people of the State, acts as a liaison between the legislative and executive branches of State Government and coordinates Federal, State, and local water resources efforts.

ORGANIZATION OF THE DEPARTMENT OF WATER RESOURCES



STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

OCTOBER 1988

[Signature]
DIRECTOR

REPORTING OF RECREATION AND FISH AND WILDLIFE ENHANCEMENT COSTS

Section 11912 of the California Water Code assigns to the Department of Water Resources (Department) the following responsibilities:

It shall be the duty of the Department to report annually to the Legislature the costs, if any, which the Department has allocated to recreation and fish and wildlife enhancement for each facility of any state water project. The Department shall also report to the Legislature any revisions which the Department makes in such allocations.

The Department shall submit each such cost allocation to the Department of Navigation and Ocean Development (Department of Boating and Waterways), the Department of Parks and Recreation, and to the Department of Fish and Game. The Department of Navigation and Ocean Development, the Department of Parks and Recreation, and the Department of Fish and Game shall file with the Department of Water Resources their written comments with respect to each such cost allocation, which written comments shall be included in the report required by this section.

It shall also be the duty of the Department to report to the Legislature on any expenditure of funds for acquiring rights-of-way, easements and property pursuant to Section 346 for recreation development associated with such facilities

This appendix is the Department's 1988 report, as required by Section 11912 of the California Water Code.

For brevity, "fish and wildlife enhancement" is hereafter referred to as "enhancement". The Department's (DWR) cost allocations treat recreation and enhancement as one combined purpose of the State Water Project (SWP).

Organization of Report

Capital costs of SWP facilities allocated by DWR to recreation and enhancement, through December 31, 1987 are shown in Table 1, pages 8 and 9. Table 1 also shows the expenditures for acquiring rights-of-way, easements, and property for recreation development associated with such facilities. Table 2 details the accrued interest charges included in the costs shown in Table 1.

The notes to Table 1, pages 10 through 13, explain the DWR's procedures for reporting recreation and enhancement costs,

describe how the amounts shown in the table are calculated, and reconcile significant changes from costs shown in previous reports.

The costs shown in Table 1 do not reflect new or revised allocations for any facility of the SWP. The derivation of allocation percentages indicated for joint capital costs of those multipurpose facilities listed in the upper portion of Table 1 have been described in previous reports. Copies of those descriptions are available upon request to DWR.

TABLE 1: RECREATION AND ENHANCEMENT
(Reported to the California Legislature in
(in

ITEM	DISBURSEMENTS						
	1952-1974	1975	1976	1977	1978	1979	1980
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Joint Capital Costs Allocated to							
<u>Frenchman Dam and Lake (78.5%)</u>							
California Water Resources Development Bond Fund	102,997	0	0	0	0	0	0
All Other Funds	2,434,800	365	916	700	10,531	9,278	56,964
Subtotal	2,537,797	365	916	700	10,531	9,278	56,964
<u>Antelope Dam and Lake (100%)</u>							
California Water Resources Development Bond Fund	1,036,428	0	0	0	0	0	0
All Other Funds	3,943,925	513	1,731	1,348	18,514	16,099	61,303
Subtotal	4,980,353	513	1,731	1,348	18,514	16,099	61,303
<u>Grizzly Valley Dam and Lake Davis (99.0%)</u>							
California Water Resources Development Bond Fund	4,003,092	0	0	0	0	0	0
All Other Funds	400,204	88,268	22,115	8,197	78,430	45,879	92,353
Subtotal	4,403,296	88,268	22,115	8,197	78,430	45,879	92,353
<u>San Luis Dam and Reservoir O'Neill Forebay and Los Banos Reservoir (3.4%)</u>							
California Water Resources Development Bond Fund	2,032,350	-253	-130	-118	-56	0	-2,078
All Other Funds	1,382,493	11,665	4,870	5,660	-22,713	-2,289	19,269
Subtotal	3,414,843	11,412	4,740	5,542	-22,769	-2,289	17,191
<u>California Aqueduct Delta to Dos Amigos P.P. (3.4%)</u>							
California Water Resources Development Bond Fund	4,467,667	0	0	0	0	0	0
All Other Funds	741,032	21,602	38,409	15,453	19,999	32,771	28,506
Subtotal	5,208,699	21,602	38,409	15,453	19,999	32,771	28,506
<u>Oroville Division (2.9%)</u>							
California Water Resources Development Bond Fund	5,725,408	-18	-15	-15	-19	-23	-27
All Other Funds	3,355,949	28,467	28,087	515,025	83,103	52,177	28,974
Subtotal	9,081,357	28,449	28,072	515,010	83,084	52,154	28,947
<u>Del Valle Dam and Lake Del Valle (48.0%)</u>							
California Water Resources Development Bond Fund	10,546,762	0	0	0	0	0	0
All Other Funds	2,275,795	7,835	9,976	3,656	9,324	33,333	35,871
Subtotal	12,822,557	7,835	9,976	3,656	9,324	33,333	35,871
<u>California Aqueduct Dos Amigos P.P. to Terminal (5.7%)</u>							
California Water Resources Development Bond Fund	48,622,358	131	59	57	-1,440	-155	3,473
All Other Funds	23,787,163	1,238,092	974,102	830,247	868,320	1,602,475	2,285,535
Subtotal	72,409,521	1,238,223	974,161	830,304	866,880	1,602,320	2,289,008
TOTAL	115,058,428	1,396,667	1,080,120	1,380,210	1,063,993	1,789,545	2,610,143
Specific Costs of Acquiring							
<u>Frenchman Dam and Lake</u>							
California Water Resources Development Bond Fund	3,379	0	0	0	0	0	0
All Other Funds	49,947	0	0	0	0	0	0
Subtotal	53,326	0	0	0	0	0	0
<u>Grizzly Valley Dam and Lake Davis</u>							
California Water Resources Development Bond Fund	204,116	0	0	0	0	0	0
All Other Funds	5,246	0	0	0	0	2,648	56,918
Subtotal	209,362	0	0	0	0	2,648	56,918
<u>Abbey Bridge Dam and Reservoir</u>							
California Water Resources Development Bond Fund	9	0	0	0	0	0	0
All Other Funds	9,921	0	0	0	0	0	0
Subtotal	9,930	0	0	0	0	0	0
<u>San Luis Dam and Reservoir O'Neill Forebay and Los Banos Reservoir</u>							
California Water Resources Development Bond Fund	395,284	0	0	0	0	0	0
All Other Funds	207,782	508	692	729	1,075	56,049	126
Subtotal	603,066	508	692	729	1,075	56,049	126
<u>California Aqueduct Delta to Dos Amigos P.P.</u>							
California Water Resources Development Bond Fund	461,086	0	0	0	0	0	0
All Other Funds	106,183	349	888	617	978	21,952	43,344
Subtotal	567,269	349	888	617	978	21,952	43,344
<u>Oroville Division</u>							
California Water Resources Development Bond Fund	7,810,059	-53	-45	-45	-57	-69	-81
All Other Funds	338,264	-3,762	1,880	1,637	101,283	1,313	1,853
Subtotal	8,148,323	-3,815	1,835	1,592	101,226	1,244	1,772
<u>Del Valle Dam and Lake Del Valle</u>							
California Water Resources Development Bond Fund	519,425	0	0	0	0	0	0
All Other Funds	-38,050	403	44	88	707	262	389
Subtotal	481,375	403	44	88	707	262	389
<u>California Aqueduct Dos Amigos P.P. to Terminal</u>							
California Water Resources Development Bond Fund	478,971	0	0	0	0	0	0
All Other Funds	45,208	11,095	123	561	33,357	274,051	125,515
Subtotal	524,179	11,095	123	561	33,357	274,051	125,515
<u>Castaic Dam and Lake</u>							
California Water Resources Development Bond Fund	1,954,406	-109	0	0	0	0	0
All Other Funds	177,181	89,836	10,841	18,589	49,662	113,056	469,435
Subtotal	2,131,587	89,727	10,841	18,589	49,662	113,056	469,435
<u>Cedar Springs Dam and Silverwood Lake</u>							
California Water Resources Development Bond Fund	424,966	0	0	0	0	0	0
All Other Funds	239,737	11,665	5,739	2,528	8,402	15,953	56,905
Subtotal	664,703	11,665	5,739	2,528	8,402	15,953	56,905
<u>Perris Dam and Lake Perris</u>							
California Water Resources Development Bond Fund	1,022,313	0	0	0	0	0	0
All Other Funds	3,736,497	32,890	15	0	84,460	206,806	879,590
Subtotal	4,758,810	32,890	15	0	84,460	206,806	879,590
TOTAL	18,153,930	143,022	20,177	24,704	279,847	492,021	1,633,994
TOTAL RECREATION AND ENHANCEMENT COSTS							
California Water Resources Development Bond Fund	89,811,076	-302	-131	-121	-1,572	-247	1,287
All Other Funds	43,401,282	1,539,991	1,100,428	1,405,035	1,345,432	2,481,813	4,242,850
GRAND TOTAL	133,212,358	1,539,689	1,100,297	1,404,914	1,343,860	2,481,566	4,244,137

COST OF THE STATE WATER PROJECT (a Response to Water Code Section 11912) dollars)

BY CALENDAR YEAR							TOTAL	INTEREST	TOTAL	PREVIOUS	INCREASE
1981	1982	1983	1984	1985	1986	1987					
(0)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
Recreation and Enhancement: (b)											
0	0	0	0	0	0	0	102,997	1,903	104,900	104,800	100
13,705	69,404	64,496	2,485	39,556	4,687	1,718	2,709,605	0	2,709,605	2,707,860	1,745
13,705	69,404	64,496	2,485	39,556	4,687	1,718	2,812,602	1,903	2,814,505	2,812,660	1,845
0	0	0	0	0	0	0	1,036,428	103,939	1,140,367	1,136,824	5,543
4,516	88,787	42,171	47,457	85,007	21,283	7,414	4,340,068	0	4,340,068	4,332,491	7,577
4,516	88,787	42,171	47,457	85,007	21,283	7,414	5,376,496	103,939	5,480,435	5,467,315	13,120
0	0	0	0	0	0	0	4,003,092	441,502	4,444,594	4,421,015	23,579
10,325	51,133	27,800	21,527	8,248	14,819	115,454	1,184,754	0	1,184,754	1,068,903	115,951
10,325	51,133	27,800	21,527	8,248	14,819	115,454	5,187,846	441,502	5,629,348	5,489,818	139,530
-1,419	-35,272	-16,941	-15,653	-3,136	-1,917	-4,586	1,950,791	297,531	2,248,322	2,237,139	11,183
8,384	281,990	137,966	65,749	23,130	18,681	19,212	1,954,067	0	1,954,067	1,934,433	19,634
6,965	246,718	121,025	50,096	19,994	16,764	14,628	3,904,858	297,531	4,202,389	4,171,572	30,817
0	0	0	0	0	0	0	4,467,667	799,684	5,267,351	5,217,423	49,928
194,722	145,514	58,656	85,695	41,248	26,854	277,433	1,727,894	0	1,727,894	1,652,921	274,973
194,722	145,514	58,656	85,695	41,248	26,854	277,433	6,195,561	799,684	6,995,245	6,670,344	324,901
-29	-28	-9	0	0	0	-9	5,725,216	1,835,409	7,560,625	7,450,479	110,146
18,411	14,317	17,996	18,277	17,392	36,543	7,308	4,222,026	0	4,222,026	4,214,422	7,604
18,382	14,289	17,987	18,277	17,392	36,543	7,299	9,947,242	1,835,409	11,782,651	11,664,901	117,750
0	0	0	0	0	0	0	10,544,762	5,953,867	16,500,629	16,050,114	450,515
23,936	24,576	77,694	161,639	43,238	13,673	32,327	2,752,876	0	2,752,876	2,720,551	32,325
23,936	24,576	77,694	161,639	43,238	13,673	32,327	13,299,638	5,953,867	19,253,505	18,770,665	482,840
2,382	59,123	28,400	26,247	5,264	3,217	7,689	48,756,805	65,475,312	114,232,117	104,938,776	9,293,341
1,978,972	3,169,735	2,350,516	1,513,701	841,687	592,958	436,736	42,470,239	0	42,470,239	42,055,646	414,593
1,981,354	3,228,858	2,378,916	1,539,948	846,951	596,175	444,425	91,227,044	65,475,312	156,702,356	146,994,422	9,707,934
2,253,905	3,869,279	2,788,745	1,927,124	1,101,634	730,798	900,696	137,951,287	74,909,147	212,860,434	202,041,697	10,818,737
Land for Recreation Development: (c)											
0	0	0	0	0	0	0	3,379	141	3,520	3,513	7
0	0	0	0	0	0	0	49,947	0	49,947	49,947	0
0	0	0	0	0	0	0	53,326	141	53,467	53,460	7
0	0	0	0	0	0	0	204,116	15,948	220,064	219,215	849
76,931	451,796	2,792	-203,509	1,216	19,983	6,846	420,867	0	420,867	413,840	7,027
76,931	451,796	2,792	-203,509	1,216	19,983	6,846	624,983	15,948	640,931	633,055	7,876
0	0	0	0	0	0	0	9	0	9	9	0
0	0	0	0	0	0	0	9,921	0	9,921	9,921	0
0	0	0	0	0	0	0	9,930	0	9,930	9,930	0
0	0	0	0	0	0	0	395,284	30,416	425,700	424,107	1,593
107	278	187	40	817	44,030	30,822	343,242	0	343,242	306,120	37,122
107	278	187	40	817	44,030	30,822	738,526	30,416	768,942	730,227	38,715
0	0	0	0	0	0	0	461,086	142,801	603,887	595,796	8,091
11,275	44,919	12,828	-55,443	-44,376	-77,137	-35,567	32,810	0	32,810	68,379	-35,569
11,275	44,919	12,828	-55,443	-44,376	-77,137	-35,567	493,896	142,801	636,697	664,175	-27,478
-88	-86	-26	0	0	0	0	7,809,509	3,246,345	11,055,854	10,824,582	231,272
1,033	20,170	41,068	174,752	879	1,795	-2,349	679,816	0	679,816	680,831	-1,015
945	20,084	41,042	174,752	879	1,795	-2,349	8,489,325	3,246,345	11,735,670	11,505,413	230,257
0	0	0	0	0	0	0	519,425	397,653	917,078	891,372	25,706
314	292	499	437	953	809	534	-32,319	0	-32,319	-33,608	1,289
314	292	499	437	953	809	534	487,106	397,653	884,759	857,764	26,995
0	0	0	0	0	0	0	478,971	350,373	829,344	806,852	22,492
3,826	-11,992	-13,190	1,272	-5,007	-5,658	43	459,204	0	459,204	462,079	-2,875
3,826	-11,992	-13,190	1,272	-5,007	-5,658	43	938,175	350,373	1,288,548	1,268,931	19,617
0	0	0	0	0	0	0	1,954,297	1,585,943	3,540,240	3,392,416	147,824
9,145	3,357	6,132	510	564	0	0	948,308	0	948,308	972,515	-24,207
9,145	3,357	6,132	510	564	0	0	2,902,605	1,585,943	4,488,548	4,364,931	123,617
0	0	0	0	0	0	0	424,966	347,376	772,342	749,379	22,963
3,144	7,529	3,240	885	1,191	1,561	1,439	360,118	0	360,118	357,971	2,147
3,144	7,529	3,240	885	1,191	1,561	1,439	785,084	347,376	1,132,460	1,107,350	25,110
0	0	0	0	0	0	0	1,022,313	948,429	1,970,742	1,854,957	115,785
0	-279	0	0	0	0	0	4,939,979	0	4,939,979	4,939,979	0
0	-279	0	0	0	0	0	5,962,292	948,429	6,910,721	6,794,936	115,785
105,687	515,984	53,530	-81,056	-43,763	-14,617	1,768	21,485,248	7,065,425	28,550,673	27,990,172	560,501
846	23,737	11,424	10,594	2,128	1,300	3,094	89,863,113	81,974,572	171,837,685	161,316,768	10,520,917
2,358,746	4,361,526	2,830,851	1,835,474	1,055,743	714,881	899,370	89,573,422	0	89,573,422	68,715,101	858,321
2,359,592	4,385,263	2,842,275	1,846,068	1,057,871	716,181	902,464	159,436,555	81,974,572	241,411,127	230,031,869	11,379,258

A summary of allocation percentages is shown in a separate table, along with illustrative allocation percentages for facilities not yet reported.

Included at the end of this report are comments by the Department of Boating and Waterways, the Department of Parks and Recreation, and the Department of Fish and Game.

marized in the table on this page.

Allocated operation, maintenance, power, and replacement (OMP&R) costs of multipurpose facilities are budgeted by DWR and financed by annual appropriations from the State General Fund. Capital costs (other than land acquisition costs), along with OMP&R costs of recreation facilities,

Type of Recreation and Enhancement Costs Not Reported in Table 1	General Fund Appropriations, unless otherwise noted		
	1988-89 ^(a)	1987-88 ^(b)	Total 1962-63 thru 1988-89 ^(c)
Allocated operation, maintenance, power and replacement costs of multipurpose facilities	\$ 0 ^(d)	\$ 0 ^(d)	\$16,657,000
Capital costs of recreation developments	\$ 80,000	\$3,278,000	\$98,000,000 ^{(e)(f)}
Operation, maintenance, and replacement costs of recreation developments	\$7,559,000	\$7,279,000	\$73,323,000 ^(g)
a) Amounts in Governor's budget. b) 1987-88 budgeted amount. c) Actual through 1986-87 plus a) and b). d) No SWP operation and maintenance costs are budgeted. e) Amounts from State recreation bond funds and other State and federal recreation funds. f) Includes \$1,236,000 from the Harbors and Watercraft Revolving Fund, and \$200,000 directly from the Highway Users Tax Fund. g) Operation, maintenance, power, and replacement costs are budgeted by the Department of Parks and Recreation; boating facility costs are budgeted by the Department of Boating and Waterways; and enhancement development costs are budgeted by the Department of Fish and Game.			

Notes to Table 1, Pages 8 and 9

- a) Recreation and enhancement costs refer only to (1) multipurpose facility capital costs allocated to recreation, and (2) the capital costs of lands acquired for associated recreation development. These costs are budgeted by DWR from funds that are available for financing Project construction costs.

Recreation and enhancement costs not reported in Table 1 are budgeted by several State departments. These costs, financed by appropriations from a variety of funds, are sum-

are budgeted by the Department of Parks and Recreation. However, the costs of constructing boating facilities are budgeted by the Department of Boating and Waterways, and the costs of enhancement developments are budgeted by the Department of Fish and Game.

- b) Joint capital costs allocated to recreation and enhancement are based on DWR's derivation, for each multipurpose facility, of the percentages of the total joint costs attributable to each included purpose. These derivations are based on the application of conventional cost alloca-

tion methods that weigh the estimated costs to be incurred and the benefits to be realized during a 50-year period of analysis. Allocated costs reflect the application of these percentages to the actual capital costs incurred for each facility, as accounted by DWR.

Costs allocated to recreation and enhancement generally are first reported in the year following the year construction of a facility is completed. However, these allocated costs may be subsequently changed by either the adjustment of accounted capital costs or the revision of allocation percentages.

In response to questions raised by the Department of Finance, DWR retained a consulting economist to review the method and factors supporting the project purpose cost

allocations for the SWP. The consultant's report was completed in January 1985. In general, the consultant agreed with the allocation method and the manner in which it is applied by DWR. The Department of Finance received a copy of the report in February 1985.

- c) Specific costs of acquiring land for recreation development are incurred by DWR under the authority of California Water Code Section 346. DWR purchases recreation land concurrently with other lands needed for multipurpose facilities, in order to (1) decrease the total land costs of the Project, and (2) acquire property in an orderly manner. Recreation lands acquired for each Project facility through September 30, 1987 are shown in the table below.

DWR reports the annual expenditure

SUMMARY OF RECREATION LAND ACQUISITIONS^(a)

(in acres)

Project Facility	Acquired ^(b)	To Be Acquired	Federal Lands ^(c)	Total
Frenchman Lake	719	0	0	719
Antelope Lake	1,342	0	0	1,342
Lake Davis	733	0	0	733
San Luis Reservoir and O'Neill Forebay	2,518	0	0	2,518
Oroville Division	2,993	0	212	3,205
Lake Del Valle	1,206	0	0	1,206
California Aqueduct (excluding reservoirs)	1,834 ^(d)	(e)	0	1,834
Castaic Lake	1,915	0	577	2,492
Silverwood Lake	3,223	0	0	3,223
Lake Perris	<u>4,351</u>	<u>115</u>	<u>0</u>	<u>4,466</u>
Total	20,834	115	789	21,738

- a) Includes recreation lands for only those project facilities with an established recreation land use and acquisition plan.
- b) Costs of acquiring these lands are shown in Table 1.
- c) These lands are presently being leased from the federal government at a nominal cost to the State.
- d) Possession and control of a portion of these lands will be transferred to the Department of Fish and Game for use in the Department's Southern California wildlife mitigation program. When the transfer is made, the acreage will be reduced accordingly.
- e) Additional land needs are to be identified by future studies.

of Project funds for acquiring all recreation land in the year following the expenditure. The costs of such lands generally are established when acquired, and are not affected by the allocation percentages for the associated multipurpose Project facility. However, the reported costs of certain lands may be subsequently revised due to (1) receipt of certain revenues (such as federal grants and miscellaneous income from rights of way sales), or (2) modification of the recreation land use plan.

The amounts to be reported in future years will include credits for any reduction in previously reported costs, together with interest income thereon. If recreation land is sold or if grants are received, the amount will be reported as a negative cost of the facility in the year received. If recreation land is reclassified as multipurpose Project land, the original purchase price, together with appropriate interest income, will be reported as a negative expenditure for specific land costs, and an appropriate amount will be added to joint capital costs allocated to recreation and enhancement for the associated facility.

The costs of acquiring land for recreation development reported herein include about \$1.1 million for land that will be used to mitigate impacts to wildlife habitat in Southern California resulting from construction of the SWP. As these lands are redesignated from recreation to Project (wildlife mitigation) purposes, the amounts to be reported in future years will include credits for the reduction in previously reported costs, together with appropriate interest income thereon.

The costs of acquiring recreation land also include the salaries of DWR personnel engaged in recreation

land acquisition activities, together with indirect costs distributed on the basis of direct salaries.

- d) Interest accruals are calculated as shown in Table 2. Interest charges are accrued only on the portion of annual disbursements financed by the California Water Resources Development Bond Fund and cease when such disbursements, together with cumulative interest accruals thereon, have been reimbursed. Calculations are based on the weighted average interest costs of Burns-Porter and Water System Revenue bonds sold to date (4.613 percent for the bonds outstanding on June 30, 1988). This rate differs from the "Project Interest Rate" under SWP water supply contracts, in that interest costs on power revenue bond sales are not included and interest costs on water revenue bond sales are included.

DWR has sold Water System Revenue Bonds to finance additional multipurpose facilities. Interest accruals reported in Table 2 include a portion of the interest costs of these revenue bonds.

As of December 31, 1987, a total of \$90 million had been reimbursed to DWR under the continuing annual \$5 million appropriation (through fiscal year 1986-87) of State tideland oil and gas revenues, authorized by California Statutes of 1966, First Extraordinary Session, Chapter 27.

With no allowance for future interest, reported reimbursement of the costs would cover the annual appropriations in the full amounts for each fiscal year through fiscal year 2016-2017, together with \$1,411,107 of the appropriation for 2017-2018. With future interest computed at 4.613 percent, reported reimbursement of the costs would be covered by appropriations in the full amounts for each fiscal year through 2083-2084, together with \$4,852,141 of

the appropriation for 2084-2085.

e) Costs previously reported are as shown in Table 1 (pages 8 and 9) of Appendix D to Bulletin 132-87. Such costs were based on DWR's accounting records as of December 31, 1986. The average interest cost on Burns-Porter bond sales was then 4.378 percent.

f) Reasons for cost increases are outlined below:

- Additional disbursements during 1987 for recreation lands and for joint capital costs allocated to recreation and enhancement . . . \$ 902,000
- Additional accrued interest on recreation costs not yet reimbursed by the continuing \$5 million annual appropriation due to an increase in the interest rate, changes in bond fund expenditures and an additional year of accrual (1987) . . . \$10,518,000
- Adjustment to allocated costs for Del Valle Dam and Lake for legal work on claims related to Grizzly Valley Dam . . . \$ 2,000
- Adjustments to allocated costs for San Luis Dam & Reservoir and O'Neill Forebay for costs of acquiring land for recreation for 1986 . . . \$ 12,000
- Adjustments to recreation land costs for Delta to Dos Amigos for 1986 . . . \$ -18,000
- Adjustments to recreation land costs for Castaic Dam and lake for 1986 . . . \$ -24,000
- Adjustments to recreation land costs for Antelope Dam and lake for 1986 . . . \$ 2,000
- Additional recreational land costs for Grizzly Dam for 1986 . . . \$ 2,000
- Adjustments to recreation land costs for Oroville Dam for 1986 . . . \$ 2,000

- Adjustments to recreation land costs for Cedar Spring Dam and Silverwood Lake for 1986 . . . \$ 2,000
- Adjustment to allocated costs for the California Aqueduct, Delta to Dos Amigos due to late reporting of 1986 expenditures . . . \$ -21,000

TOTAL INCREASE . . . \$11,379,000

TABLE 2: CALCULATION OF INTEREST ACCRUALS ON CALIFORNIA

(in dollars)

YEAR	ITEM	JOINT CAPITAL COSTS ALLOCATED TO RECREATION AND ENHANCEMENT								TOTAL
		FRENCHMAN DAM AND LAKE	ANTELOPE DAM AND LAKE	GRIZZLY VALLEY DAM AND LAKE DAVIS	SAN LUIS DAM & RESERVOIR, O'NEILL FOREBAY & LOS BAÑOS RESERVOIR	CALIFORNIA ADEQUENT DELTA TO DOS AMIGOS P.P.	OROVILLE DIVISION	DEL VALLE DAM AND LAKE DEL VALLE	CALIFORNIA ADEQUENT DOS AMIGOS P.P. TO FERMINI	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1952- Disbursements:										
1983	1. Calif. Water Resources Development Bond Fund	102,997	1,036,428	4,003,092	1,976,083	4,467,667	5,725,225	10,546,762	48,714,388	76,572,642
	2. All Other Funds	2,661,159	4,178,907	1,024,706	1,827,295	1,296,664	4,142,506	2,501,999	39,085,157	56,718,393
	Reimbursements:									
	1. Calif. Water Resources Development Bond Fund	104,900	1,140,367	4,444,594	2,330,239	5,267,351	7,560,675	16,500,628	0	37,348,754
	2. All Other Funds	2,527,259	4,047,949	945,773	1,407,339	1,092,494	4,110,193	2,399,729	0	16,530,736
	Interest Accruals	1,903	103,939	441,502	299,074	799,684	1,835,410	5,953,867	47,255,790	56,691,169
1984	Beginning of Year Balance to be Reimbursed:									
	1. Calif. Water Resources Development Bond Fund	0	0	0	-55,082	0	-40	1	95,970,178	95,915,057
	2. All Other Funds	133,900	130,958	78,933	419,956	204,170	32,313	102,270	39,085,157	40,187,657
	Disbursements During Year:									
	1. Calif. Water Resources Development Bond Fund	0	0	0	-15,653	0	0	0	26,247	10,594
	2. All Other Funds	2,485	47,457	21,527	65,749	85,695	18,277	161,639	1,513,701	1,916,530
	Reimbursements During Year Applied To:									
	1. Calif. Water Resources Development Bond Fund	0	0	0	-70,735	0	-40	1	1,079,643	1,008,869
	2. All Other Funds	136,385	178,415	100,460	485,705	289,865	50,590	263,909	0	1,505,329
	End-of-Year Balance Without Interest for:									
	1. Calif. Water Resources Development Bond Fund	0	0	0	0	0	0	0	94,916,782	94,916,782
	2. All Other Funds	0	0	0	0	0	0	0	40,598,858	40,598,858
	Interest Accrual on Average Balance	0	0	0	-1,270	0	-1	0	4,402,808	4,401,537
1985	Beginning of Year Balance to be Reimbursed:									
	1. Calif. Water Resources Development Bond Fund	0	0	0	-1,270	0	-1	0	99,319,590	99,318,319
	2. All Other Funds	0	0	0	0	0	0	0	40,598,858	40,598,858
	Disbursements During Year:									
	1. Calif. Water Resources Development Bond Fund	0	0	0	-3,136	0	0	0	5,264	2,128
	2. All Other Funds	39,556	85,007	8,248	23,130	41,248	17,392	43,238	841,687	1,099,506
	Reimbursements During Year Applied To:									
	1. Calif. Water Resources Development Bond Fund	0	0	0	-4,406	0	-1	0	4,789,402	4,784,995
	2. All Other Funds	39,556	85,007	8,248	23,130	41,248	17,392	43,238	0	257,819
	End-of-Year Balance Without Interest for:									
	1. Calif. Water Resources Development Bond Fund	0	0	0	0	0	0	0	94,535,452	94,535,452
	2. All Other Funds	0	0	0	0	0	0	0	41,440,545	41,440,545
	Interest Accrual on Average Balance	0	0	0	-29	0	0	0	4,471,267	4,471,258
1986	Beginning of Year Balance to be Reimbursed:									
	1. Calif. Water Resources Development Bond Fund	0	0	0	-29	0	0	0	99,006,719	99,006,690
	2. All Other Funds	0	0	0	0	0	0	0	41,440,545	41,440,545
	Disbursements During Year:									
	1. Calif. Water Resources Development Bond Fund	0	0	0	-1,917	0	0	0	3,217	1,300
	2. All Other Funds	4,687	21,283	14,819	18,681	26,854	36,543	13,673	592,958	729,498
	Reimbursements During Year Applied To:									
	1. Calif. Water Resources Development Bond Fund	0	0	0	0	0	0	0	0	0
	2. All Other Funds	0	0	0	0	0	0	0	0	0
	End-of-Year Balance Without Interest for:									
	1. Calif. Water Resources Development Bond Fund	0	0	0	-1,946	0	0	0	99,009,936	99,007,990
	2. All Other Funds	4,687	21,283	14,819	18,681	26,854	36,543	13,673	42,033,503	42,170,043
	Interest Accrual on Average Balance	0	0	0	-46	0	0	0	4,567,254	4,567,208
1987	Beginning of Year Balance to be Reimbursed:									
	1. Calif. Water Resources Development Bond Fund	0	0	0	-1,992	0	0	0	103,577,190	103,575,198
	2. All Other Funds	4,687	21,283	14,819	18,681	26,854	36,543	13,673	42,033,503	42,170,043
	Disbursements During Year:									
	1. Calif. Water Resources Development Bond Fund	0	0	0	-4,586	0	-9	0	7,689	3,094
	2. All Other Funds	1,718	7,414	115,454	19,212	277,433	7,308	32,327	436,736	897,602
	Reimbursements During Year Applied To:									
	1. Calif. Water Resources Development Bond Fund	0	0	0	0	0	0	0	0	0
	2. All Other Funds	0	0	0	0	0	0	0	0	0
	End-of-Year Balance Without Interest for:									
	1. Calif. Water Resources Development Bond Fund	0	0	0	-6,578	0	-9	0	103,584,879	103,578,292
	2. All Other Funds	6,405	28,697	130,273	37,893	304,287	43,851	46,000	42,470,239	43,067,645
	Interest Accrual on Average Balance	0	0	0	-198	0	0	0	4,778,193	4,777,995
1988	Beginning of Year Balance to be Reimbursed:									
	1. Calif. Water Resources Development Bond Fund	0	0	0	-6,776	0	-9	0	108,363,072	108,356,287
	2. All Other Funds	6,405	28,697	130,273	37,893	304,287	43,851	46,000	42,470,239	43,067,645
	TOTAL	6,405	28,697	130,273	31,117	304,287	43,842	46,000	150,833,311	151,423,932
	Disbursements:									
	1. Calif. Water Resources Development Bond Fund	102,997	1,036,428	4,003,092	1,950,791	4,467,667	5,725,216	10,546,762	48,756,805	76,589,758
	2. All Other Funds	2,709,605	4,340,668	1,184,754	1,954,067	1,727,854	4,222,026	2,752,876	42,470,239	61,361,529
	TOTAL	2,812,602	5,376,496	5,187,846	3,904,858	6,195,561	9,947,242	13,299,638	91,227,044	137,951,287
	Reimbursements:									
	1. Calif. Water Resources Development Bond Fund	104,900	1,140,367	4,444,594	2,255,098	5,267,351	7,560,634	16,500,629	5,869,045	43,142,618
	2. All Other Funds	2,703,200	4,311,371	1,054,481	1,916,174	1,423,607	4,178,175	2,706,876	0	18,293,884
	TOTAL	2,808,100	5,451,738	5,499,075	4,171,272	6,690,958	11,738,809	19,207,505	5,869,045	61,436,502
	TOTAL INTEREST ACCRUALS, 1952 THROUGH 1987	1,903	103,939	441,502	297,531	799,684	1,835,409	5,953,867	65,475,312	74,909,147

WATER RESOURCES DEVELOPMENT BOND FUND DISBURSEMENTS

@ 4.613% per annum)

COSTS OF ACQUIRING LAND FOR RECREATION DEVELOPMENT												
FRENCHMAN DAM AND LAKE	GRIZZLY VALLEY DAM AND LAKE DAVIS	ABBEY BRIDGE DAM AND RESERVOIR	SAN LUIS DAM & RESERVOIR, O'NEILL FOREBAY & LOS BANOS RESERVOIR	CALIFORNIA AQUEDUCT DELTA TO DOS AMIGOS P.P.	ORDVILLE DIVISION	DEL VALLE DAM AND LAKE DEL VALLE	CALIFORNIA AQUEDUCT DOS AMIGOS P.P. TO TERMINI	CASTAIC DAM AND LAKE	CEDAR SPRINGS DAM AND SILVERWOOD LAKE	PEARRIS DAM AND LAKE PEARRIS	TOTAL	GRAND TOTAL
(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
3,379	204,116	9	395,284	461,086	7,809,509	519,425	478,971	1,954,297	424,966	1,022,313	13,273,355	89,845,997
49,947	596,331	9,921	267,533	245,333	504,739	-35,052	468,554	947,234	355,042	4,939,979	8,349,561	65,067,954
3,520	220,064	9	425,700	603,887	11,055,976	917,065	829,334	3,539,031	771,894	1,930,114	20,296,594	57,645,348
49,947	141,743	9,921	267,068	187,586	443,501	-35,843	493,736	937,745	344,273	2,984,239	5,823,916	22,354,652
141	15,948	0	30,416	142,801	3,246,348	397,653	350,373	1,585,915	347,366	947,491	7,064,452	63,755,621
0	0	0	0	0	-119	13	10	1,181	438	39,690	41,213	95,956,270
0	454,588	0	465	57,747	61,238	791	-25,182	9,489	10,769	1,955,740	2,525,645	42,713,302
0	0	0	0	0	0	0	0	0	0	0	0	10,594
0	-203,509	0	40	-55,443	174,752	437	1,272	510	885	0	-81,056	1,835,474
0	0	0	0	0	-119	13	10	1,181	438	39,690	41,213	1,050,082
0	251,079	0	505	2,304	235,990	1,228	-23,910	9,999	11,654	1,955,740	2,444,589	3,949,918
0	0	0	0	0	0	0	0	0	0	0	0	94,916,782
0	0	0	0	0	0	0	0	0	0	0	0	40,598,858
0	0	0	0	0	-3	0	0	27	10	915	949	4,402,486
0	0	0	0	0	-3	0	0	27	10	915	949	99,319,268
0	0	0	0	0	0	0	0	0	0	0	0	40,598,858
0	0	0	0	0	0	0	0	0	0	0	0	2,128
0	1,216	0	817	-44,376	879	953	-5,007	564	1,191	0	-43,763	1,055,743
0	0	0	0	0	-3	0	0	27	10	915	949	4,785,944
0	1,216	0	817	-44,376	879	953	-5,007	564	1,191	0	-43,763	214,056
0	0	0	0	0	0	0	0	0	0	0	0	94,935,452
0	0	0	0	0	0	0	0	0	0	0	0	41,440,545
0	0	0	0	0	0	0	0	1	0	21	22	4,471,260
0	0	0	0	0	0	0	0	1	0	21	22	99,006,712
0	0	0	0	0	0	0	0	0	0	0	0	41,440,545
0	0	0	0	0	0	0	0	0	0	0	0	1,300
0	19,983	0	44,030	-77,137	1,795	809	-5,658	0	1,561	0	-14,617	714,881
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	1	0	21	22	99,008,012
0	19,983	0	44,030	-77,137	1,795	809	-5,658	0	1,561	0	-14,617	42,155,426
0	0	0	0	0	0	0	0	0	0	1	1	4,567,209
0	0	0	0	0	0	0	0	1	0	22	23	103,575,221
0	19,983	0	44,030	-77,137	1,795	809	-5,658	0	1,561	0	-14,617	42,155,426
0	0	0	0	0	0	0	0	0	0	0	0	3,094
0	6,846	0	30,822	-35,567	-2,349	534	43	0	1,439	0	1,768	899,370
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	1	0	22	23	103,578,315
0	26,829	0	74,852	-112,704	-554	1,343	-5,615	0	3,000	0	-12,849	43,054,796
0	0	0	0	0	0	0	0	0	0	1	1	4,777,996
0	0	0	0	0	0	0	0	1	0	23	24	108,356,311
0	26,829	0	74,852	-112,704	-554	1,343	-5,615	0	3,000	0	-12,849	43,054,796
0	26,829	0	74,852	-112,704	-554	1,343	-5,615	1	3,000	23	-12,825	151,411,107
3,379	204,116	9	395,284	461,086	7,809,509	519,425	478,971	1,954,297	424,966	1,022,313	13,273,355	89,843,113
49,947	420,867	9,921	343,242	32,810	679,816	-32,319	459,204	948,308	360,118	4,939,979	8,211,893	69,573,422
53,326	624,983	9,930	738,526	493,896	8,489,325	487,106	938,175	2,902,605	785,084	5,962,292	21,485,248	159,436,535
3,520	220,064	9	425,700	603,887	11,055,854	917,078	829,344	3,540,239	772,342	1,970,719	20,338,756	63,481,374
49,947	394,038	9,921	268,390	145,514	680,370	-35,662	464,819	948,308	357,118	4,939,979	8,224,742	26,518,626
53,467	614,102	9,930	694,090	749,401	11,736,224	883,416	1,294,163	4,488,547	1,129,460	6,910,698	28,563,498	90,000,000
141	15,948	0	30,416	142,801	3,246,345	397,653	350,373	1,585,943	347,376	948,429	7,065,425	81,974,572

Summary of Allocation Percentages

Each year DWR determines water contractor charges for the SWP based on allocations of costs among purposes of facilities used for more than a single purpose. These determinations are based on the percentages previously reported to and approved by the Legislature, as well as preliminary estimates for facilities not yet reported. These percentages are summarized in the following table:

SUMMARY OF COST ALLOCATION PERCENTAGES

(in percent of joint costs of the respective facilities)

Facilities of the State Water Project	Reimbursable Purposes	Nonreimbursable Purposes		
	Water Supply and Power Generation	Flood Control	Recreation and Fish and Wildlife Enhancement	Total
Capital Costs of Features Jointly Used				
<u>Project Conservation Facilities</u>				
Frenchman Dam and Lake ^(a)	21.5	0	78.5	100.0
Antelope Dam and Lake ^(a)	0	0	100.0	100.0
Grizzly Valley Dam and Lake Davis ^(a)	1.0	0	99.0	100.0
Oroville Division ^{(a)(b)}	97.1	0	2.9	100.0
California Aqueduct, Delta, to Dos Amigos Pumping Plant ^(a)	96.6	0	3.4	100.0
Delta Facilities ^(c)	86.0	0	14.0	100.0
<u>Project Transportation Facilities</u>				
Grizzly Valley Pipeline	100.0	0	0	100.0
North Bay Aqueduct ^(c)	100.0	0	0	100.0
South Bay Aqueduct:				
Del Valle Dam and Lake Del Valle ^(a)	25.2	26.8	48.0	100.0
Remainder of South Bay Aqueduct	100.0	0	0	100.0
California Aqueduct:				
California Aqueduct, Delta, to Dos Amigos Pumping Plant ^(a)	96.6	0	3.4	100.0
California Aqueduct, Dos Amigos Pumping Plant to Termini excluding the Coastal Branch ^(a)	94.3	0	5.7	100.0
Coastal Branch	100.0	0	0	100.0
<p>a) Final percentages, subject to periodic review as discussed on Page 11.</p> <p>b) Percentages are applicable to Capital Costs of Features Jointly Used, minus Federal Flood Control Payments.</p> <p>c) Illustrative percentages only, assumed for current project financial and repayment analyses.</p> <p>NOTE: Percentages shown are those applicable to the costs of the facilities as accounted by the State, or, in the case of Federal-State joint-use facilities (San Luis Facilities), only the State's share of the total cost.</p>				

**COMMENTS BY
THE DEPARTMENT OF BOATING AND WATERWAYS
THE DEPARTMENT OF PARKS AND RECREATION
AND
THE DEPARTMENT OF FISH AND GAME**

Memorandum

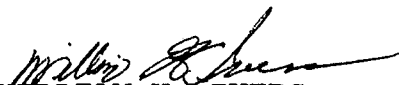
To : Mr. David N. Kennedy, Director
Department of Water Resources
1416 9th Street
Sacramento, CA 95814

Date : December 15, 1988

Subject: Cost Allocations to
Recreation and Fish and Wildlife
Enhancement, State Water Project

From : Department of Boating and Waterways

In accordance with Section 11912 of the California Water Code, we have reviewed the draft of Appendix D, "Costs of Recreation and Fish and Wildlife Enhancement," to the Department of Water Resources' Bulletin 132-88, Management of the California State Water Project." We have no comments regarding the cost allocations as reported in the draft.


WILLIAM H. IVERS
Director

Memorandum

Date : December 15, 1988

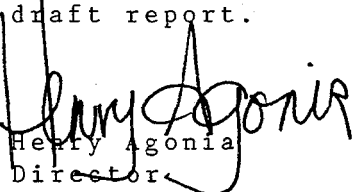
To : Honorable David N. Kennedy, Director
Department of Water Resources
1416 Ninth Street, 11th Floor
Sacramento, CA 95814

From : Department of Parks and Recreation

Subject: Cost Allocations to Recreation
and Fish and Wildlife Enhancement,
State Water Project

The Department of Parks and Recreation has reviewed the subject report.

We have no comments. Thank you for the opportunity to review the draft report.


Henry Agonias
Director

Memorandum

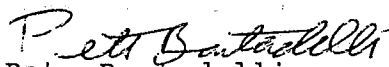
To : Mr. David N. Kennedy, Director
Department of Water Resources
1416 Ninth Street
Sacramento, CA 95814

Date : December 14, 1988

From : Department of Fish and Game

Subject : Department of Water Resources Bulletin 132-88, Appendix D -
Costs of Recreation and Fish and Wildlife Enhancement

Thank you for the opportunity to review the referenced report. My staff has reviewed the document and finds that we have no comments.


Pete Bontadelli
Director

CONVERSION FACTORS

Quantity	To Convert from Metric Unit	To Customary Unit	Multiply Metric Unit By	To Convert to Metric Unit Multiply Customary Unit By
Length	millimetres (mm)	inches (in)	0.03937	25.4
	centimetres (cm) for snow depth	inches (in)	0.3937	2.54
	metres (m)	feet (ft)	3.2808	0.3048
	kilometres (km)	miles (mi)	0.62139	1.6093
Area	square millimetres (mm ²)	square inches (in ²)	0.00155	645.16
	square metres (m ²)	square feet (ft ²)	10.764	0.092903
	hectares (ha)	acres (ac)	2.4710	0.40469
	square kilometres (km ²)	square miles (mi ²)	0.3861	2.590
Volume	litres (L)	gallons (gal)	0.26417	3.7854
	megalitres	million gallons (10 ⁶ gal)	0.26417	3.7854
	cubic metres (m ³)	cubic feet (ft ³)	35.315	0.028317
	cubic metres (m ³)	cubic yards (yd ³)	1.308	0.76455
	cubic dekametres (dam ³)	acre-feet (ac-ft)	0.8107	1.2335
Flow	cubic metres per second (m ³ /s)	cubic feet per second (ft ³ /s)	35.315	0.028317
	litres per minute (L/min)	gallons per minute (gal/min)	0.26417	3.7854
	litres per day (L/day)	gallons per day (gal/day)	0.26417	3.7854
	megalitres per day (ML/day)	million gallons per day (mgd)	0.26417	3.7854
	cubic dekametres per day (dam ³ /day)	acre-feet per day (ac-ft/day)	0.8107	1.2335
Mass	kilograms (kg)	pounds (lb)	2.2046	0.45359
	megagrams (Mg)	tons (short, 2,000 lb)	1.1023	0.90718
Velocity	metres per second (m/s)	feet per second (ft/s)	3.2808	0.3048
Power	kilowatts (kW)	horsepower (hp)	1.3405	0.746
Pressure	kilopascals (kPa)	pounds per square inch (psi)	0.14505	6.8948
	kilopascals (kPa)	feet head of water	0.33456	2.989
Specific Capacity	litres per minute per metre drawdown	gallons per minute per foot drawdown	0.08052	12.419
Concentration	milligrams per litre (mg/L)	parts per million (ppm)	1.0	1.0
Electrical Conductivity	microsiemens per centimetre (uS/cm)	micromhos per centimetre	1.0	1.0
Temperature	degrees Celsius (°C)	degrees Fahrenheit (°F)	$(1.8 \times ^\circ\text{C}) + 32$ $(^\circ\text{F} - 32)/1.8$	

State of California—Resources Agency
Department of Water Resources
P.O. Box 942836
Sacramento CA 94236-0001

